AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for analyzing an organelle-localized protein to determine whether or not a test protein localizes to an organelle, said method comprises:

(a) introducing a fusion peptide (a), which comprises one half-peptide of an intein, one half-peptide of a fluorescent protein and an organelle-targeting signal peptide, into a eukaryotic cell;

(b) introducing ~~a test protein bound to~~ a fusion peptide (b), which comprises the other half-peptide of the fluorescent protein, the other half-peptide of the intein, and a test protein, into the eukaryotic cell ~~wherein the test protein does not directly interact with the organelle-targeting signal peptide of the fusion peptide (a)~~; and

(c) detecting a fluorescence signal emitted by the fluorescent protein,

wherein the test protein and the organelle-targeting signal peptide do not directly interact, and the fluorescence signal is emitted only when the fusion peptides (a) and (b) exist in the same organelle.

2. (Previously Presented) The method of Claim 1, wherein:

in step (a), two or more types of fusion peptide (a) are introduced into the eukaryotic cell, wherein each fusion peptide (a) comprises one half-peptide of the fluorescent protein and the organelle targeting signal peptide, wherein the fluorescent protein has a different signal characteristic from other fluorescent proteins and the organelle targeting signal peptide targets a different organelle from other signal peptides;

in step (b), two or more types of fusion peptides (b) are introduced into the eukaryotic cell, wherein each fusion peptide (b) comprises the other half-peptide of the fluorescent protein and a test protein different from each other; and

in step (c), the fluorescent signal is detected.

3. (Previously Presented) The method of Claim 1, wherein, in step (a), the fusion peptide (a) is introduced into the eukaryotic cell by transfecting a recombinant vector (A), which expresses the fusion peptide (a), into the eukaryotic cell.

4. (Previously Presented) The method of Claim 1, wherein, in step (b), the fusion peptide (b) is introduced into the eukaryotic cell by transfecting a recombinant vector (B), which expresses the fusion peptide (b), into the eukaryotic cell.

5. (Original) A fusion peptide (a), which comprises a half-peptide of an intein, a half-peptide of a fluorescent protein and an organelle targeting signal peptide.

6. (Cancelled)

7. (Previously Presented) A recombinant vector (A), which expresses the fusion peptide (a) of Claim 5.

8. (Cancelled)

9. (Previously Presented) A set of fusion peptides for analyzing an organelle-localized protein, which comprises:

a fusion peptide (a) comprising a half-peptide of an intein, a half-peptide of a fluorescent protein and an organelle targeting signal peptide; and

a fusion peptide (b) comprising a half-peptide of a fluorescent protein, a half-peptide of an intein and a test protein.

10. (Previously Presented) The set of fusion peptides of Claim 9, which comprises:

two or more types of fusion peptides (a), wherein each fusion peptide (a) comprises one half-peptide of the fluorescent protein and the organelle targeting signal peptide, wherein the fluorescent protein has a different signal characteristic from other fluorescent proteins and the organelle targeting signal peptide targets a different organelle from other signal peptides; and

two or more types of fusion peptides (b), wherein each fusion peptide (b) comprises the other half of the fluorescent protein and the test protein different from each other.

11. (Previously Presented) A eukaryotic cell comprising a fusion peptide (a), which comprises a half-peptide of an intein, a half-peptide of a fluorescent protein and an organelle targeting signal peptide.

12. (Previously Presented) A cell kit comprising two or more of the eukaryotic cells of Claim 11.

13. (Previously Presented) A eukaryotic cell comprising two or more types of fusion peptide (a), wherein each fusion peptide (a) comprises a half-peptide of an intein, a half-peptide of a fluorescent protein and an organelle targeting signal peptide, wherein the fluorescent protein of each fusion peptide (a) has a different signal characteristics from other fluorescent proteins and the organelle targeting signal peptide of each fusion peptide (a) targets a different organelle from other signal peptides.

14. (Previously Presented) A cell kit comprising two or more of the eukaryotic cells of Claim 13.

15-20. (Cancelled)

21. (Previously Presented) A set of recombinant vectors for analyzing organelle-localized proteins, comprising:

a recombinant vector (A) expressing a fusion peptide (a), that comprises a half-peptide of an intein, a half-peptide of a fluorescent protein and an organelle targeting signal peptide; and

a recombinant vector (B) expressing a fusion peptide (b), that comprises a half-peptide of a fluorescent protein, a half-peptide of an intein, and a test protein.

22. (Previously Presented) The set of recombinant vectors of Claim 21, wherein:

the recombinant vector (A) expresses two or more types of fusion peptides, each fusion peptide comprising one half-peptide of a fluorescent protein and an organelle targeting signal peptide, the fluorescent protein has a different signal characteristic from other fluorescent

proteins and the organelle targeting signal peptide targets a different organelle from other signal peptides; and

the recombinant vector (B) expresses two or more types of fusion peptides, each fusion peptide comprising other half-peptide of the fluorescent protein.

23-26. (Cancelled)